

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

In re Patent Application of

Atty Dkt. -36-1909

C# M#

Confirmation No. 2356

ROBERTSON, et al.

TC/A.U.: 2648

Serial No. 10/539,413

Examiner: Adel Y. Youssef

Filed: June 17, 2005

Date: October 6, 2008

Title: METHOD AND APPARATUS FOR OPERATING A COMPUTER NETWORK



IRAF

Mail Stop Appeal Brief - Patents

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

☒ **Correspondence Address Indication Form Attached.**

☐ **NOTICE OF APPEAL**

Applicant hereby **appeals** to the Board of Patent Appeals and Interferences
from the last decision of the Examiner twice/finally rejecting
applicant's claim(s).

\$540.00 (1401)/\$0.00 (2401) \$

☒ An appeal **BRIEF** is attached in the pending appeal of the
above-identified application

\$540.00 (1402)/\$0.00 (2402) \$ 540.00

☐ Credit for fees paid in prior appeal without decision on merits

-\$ ()

☐ A reply brief is attached.

(no fee)

☐ Petition is hereby made to extend the current due date so as to cover the filing date of this
paper and attachment(s)

One Month Extension \$130.00 (1251)/\$0.00 (2251)
Two Month Extensions \$490.00 (1252)/\$0.00 (2252)
Three Month Extensions \$1110.00 (1253)/\$0.00 (2253)
Four Month Extensions \$1730.00 (1254)/\$0.00 (2254) \$

☐ "Small entity" statement attached.

Less month extension previously paid on

-\$ ()

TOTAL FEE ENCLOSED \$ 540.00

☒ **CREDIT CARD PAYMENT FORM ATTACHED.**

Any future submission requiring an extension of time is hereby stated to include a petition for such time extension.
The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or
asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this
firm) to our **Account No. 14-1140**.

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By Atty: Larry S. Nixon, Reg. No. 25,640

Signature:



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Patent Application of

ROBERTSON, et al.

Atty. Ref.: 36-1909

Serial No. 10/539,413

TC/A.U.: 2618

Filed: June 17, 2005

Examiner: Adel Y. Youssef

For: METHOD AND APPARATUS FOR OPERATING A COMPUTER
NETWORK

(October 4, 2008 = Saturday)

October 6, 2008 (= Monday)

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF UNDER 37 C.F.R. § 41.37(c)

Sir:

Applicant has appealed to the Board of Patent Appeals and Interferences (Notice of Appeal filed August 4, 2008) from the last decision of the Examiner (Final Office Action dated April 1, 2008 and Advisory Action dated July 18, 2008). An appeal brief pursuant to 37 C.F.R. § 41.37(c) is now presented.

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(I) REAL PARTY IN INTEREST

The real party in interest is British Telecommunications public limited company, a British corporation of the United Kingdom.

(II) RELATED APPEALS AND INTERFERENCES

The appellant, the undersigned, and the assignee are not aware of any related appeals, interferences, or judicial proceedings (past or present), which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

(III) STATUS OF CLAIMS

Claims 1-5 and 7-11 are pending and have been rejected. Claim 6 previously was cancelled.¹ No claims have been substantively allowed. The rejections of claims 1-11 are being appealed.

¹ The Office Action Summary included in the Final Office Action indicates that claims 1-11 are rejected. However, claim 6 was cancelled in Applicant's Amendment Under 37 C.F.R. 1.111 dated January 18, 2008.

(IV) STATUS OF AMENDMENTS

No amendments have been filed since the date of the Final Rejection, although there seems to be some confusion in this regard. That is, the Advisory Action indicates that the amendments proffered in Applicant's Request for Reconsideration filed on July 1, 2008 will not be entered, and both Boxes 3(a) and 7 have been checked. In addition, the explanatory note next to Box 3(d) -- which is not checked, in any event -- alleges that "the Examiner needs to do further search and reconsideration due to the amendmend [sic] to the claims." But Applicant's Request for Reconsideration filed on July 1, 2008 plainly did not proffer any amendments to the claims at all. Thus, contrary to the misleading nature of the Advisory Action, Applicant submits that no amendments have been filed since the date of the Final Rejection.

(V) SUMMARY OF CLAIMED SUBJECT MATTER

Each independent claim, each dependent claim argued separately, and each claim having means plus function language is summarized below including exemplary reference(s) to page and line number(s) of the specification.

A. Introduction

The invention of the claims relates to a method/system in which messages are generated by a first device, which messages together have the purpose of identifying a predetermined number of devices that satisfy a test condition included in each message. These messages are sent respectively to on-line devices neighboring the first device. To ensure that no more devices than necessary are identified by the messages, each message includes a variable that is referred to as a token bucket, which indicates the number of devices to be discovered by the message. Additionally, each message includes a unique identifier. When one device receives a discovery message sent from another device, it determines if it satisfies the test condition and, if so, it sends an acceptance message to the originating device, decrements the token bucket in the message and forwards on any remaining tokens to another neighbor. The process stops once all tokens have been disposed of in this way. If a message reaches the end of a path without disposing of all of the tokens, the message is returned back up the path to try different paths until eventually all paths have been tried or a restriction criterion (e.g., maximum permitted number of hops) is met whereupon the message is returned back as a failed message to the originating device.

B. Independent Claim 1

Independent claim 1 relates to a method of identifying a predetermined number of computers within a computer network which satisfy one or more specified conditions (e.g., flowchart in Fig. 6; p. 1, lines 27-29; p. 5, line 20 to p. 6, line 4). A request is communicated from an originating computer to one or more of the computers in the network including a request message which includes said one or more specified conditions and a token value which is indicative of a number of computer devices to be located by the message (e.g., messages 112, 120, and 126 communicated from originating device 10 in Fig. 4; p. 1, lines 30-34; p. 6, lines 16-19). Said request message is received at subsequent computers (e.g., devices 12, 20, and 26 receive messages 112, 120, and 126 in Fig. 4; step 5 in Fig. 6; p. 2, lines 1-2, p. 6, lines 19-25). At each subsequent computer which receives a request message processing the message, the following steps are performed: determining if it is able to satisfy the one or more conditions specified in the request message and, if so, decrementing the token value within the received request message and identifying itself to the request originating computer (e.g., steps 30, 35, and 40 in Fig. 6; p. 2, lines 3-5; p. 7, lines 3-10; p. 13, lines 25-29); and then determining if the, possibly decremented, token value in the received request message indicates that at least one further computer device is required to be located and if so, forwarding one or more daughter messages on to a subsequent computer or computers within the computer network unless a restriction criterion has been met (e.g., devices 14, 22, and 28 receive messages from devices 12, 20, and 26 in Fig. 4; steps 45, 50, and 55 in Fig. 6; p. 2, lines 6-10; p. 7, lines 11-20; p. 12, line 17, to p. 13, line 3). Each daughter message includes

said one or more specified conditions and a token value such that the token value if only one daughter message is forwarded, or the sum of the token values of the daughter messages if more than one daughter message is forwarded, equals the, possibly decremented, token value of the received request message (e.g., p. 13, line 18 to p. 15, line 17).

C. Independent Claim 10

Independent claim 10 relates to a computer network comprising a plurality of computers having data connections such that each computer within the network can communicate with any other computer within the network provided both computers are running and correctly connected into the network (e.g., network in Fig. 1; p. 1, lines 27-29; p. 5, line 20 to p. 6, line 4). Each computer within the network comprises a request generator is configured to generate request messages, each of which includes a token value indicative of the number of other computers within the network to be identified by the message and one or more specified conditions which each identified computer is to satisfy (e.g., messages 112, 120, and 126 communicated from originating device 10 in Fig. 4; p. 1, lines 30-34; p. 6, lines 16-19). Each computer within the network also comprises a request processor for processing received request messages (e.g., devices 12, 20, and 26 receive messages 112, 120, and 126 in Fig. 4; step 5 in Fig. 6; p. 2, lines 1-2, p. 6, lines 19-25). It is determined whether it is able to satisfy the one or more conditions specified in the request message and, if so, the token value within the message is decremented and it identifies itself to the originator of the corresponding received request

message (e.g., steps 30, 35, and 40 in Fig. 6; p. 2, lines 3-5; p. 7, lines 3-10; p. 13, lines 25-29). Then, it is determined if the, possibly decremented, token value in the request message indicates that at least one further computer is required to be located by the message and, if so, the one or more daughter messages is/are forwarded on to a subsequent computer or computers within the computer network, unless a restriction criterion has been met (e.g., devices 14, 22, and 28 receive messages from devices 12, 20, and 26 in Fig. 4; steps 45, 50, and 55 in Fig. 6; p. 2, lines 6-10; p. 7, lines 11-20; p. 12, line 17, to p. 13, line 3). Each daughter message includes said one or more specified conditions and a token value such that the token value if only one daughter message is forwarded, or the sum of the token values of the daughter messages if more than one daughter message is forwarded, equals the, possibly decremented, token value of the received request message (e.g., p. 13, line 18 to p. 15, line 17).

D. Independent Claim 11

Independent claim 11 relates to a computer for forming part of a computer network comprising a plurality of computers having data connections such that each computer within the network can communicate with any other computer within the network provided both computers are running and correctly connected into the network (e.g., device 10 in Figs. 1 and 2; p. 1, lines 27-29; p. 5, line 20 to p. 6, line 4). A request generator is configured to generate request messages, each of which includes a token value indicative of the number of other computers within the network to be identified by the message and one or more specified conditions which each identified computer is to

satisfy (e.g., messages 112, 120, and 126 communicated from originating device 10 in Fig. 4; p. 1, lines 30-34; p. 6, lines 16-19). A request processor is configured to process received request messages (e.g., devices 12, 20, and 26 receive messages 112, 120, and 126 in Fig. 4; step 5 in Fig. 6; p. 2, lines 1-2, p. 6, lines 19-25). It is determined whether it is able to satisfy the one or more conditions specified in the received request message and, if so, the token value within the message is decremented and it identifies itself to the originator of the received request message (e.g., steps 30, 35, and 40 in Fig. 6; p. 2, lines 3-5; p. 7, lines 3-10; p. 13, lines 25-29). Then, it is determined if the, possibly decremented, token value in the received request message indicates that at least one further computer is required to be located by the message and, if so, one or more daughter messages is/are forwarded on to a subsequent computer or computers within the computer network, unless a restriction criterion has been (e.g., devices 14, 22, and 28 receive messages from devices 12, 20, and 26 in Fig. 4; steps 45, 50, and 55 in Fig. 6; p. 2, lines 6-10; p. 7, lines 11-20; p. 12, line 17, to p. 13, line 3). Each daughter message includes said one or more specified conditions and a token value such that the token value if only one daughter message is forwarded, or the sum of the token values of the daughter messages if more than one daughter message is forwarded, equals the, possibly decremented, token value of the received request message (e.g., p. 13, line 18 to p. 15, line 17).

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(VI) GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-5 and 7-9 stand rejected under 35 U.S.C. § 103(a) as allegedly being “obvious” over Wheeler et al. (U.S. Publication No. 2003/0129248) in view of Clubb et al. (U.S. Publication No. 2001/0034791).

Claims 10-11 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Clubb.

(VII) ARGUMENT

As a preliminary matter, it is noted that the Examiner's comments in the Final Office Action are in obvious error in a number of places, e.g., in that they refer to non-existent paragraph numbers in the cited references. Needless to say, such errors make it difficult to determine how exactly the alleged cases of obviousness and anticipation have been made. Applicant's undersigned representative telephoned the Examiner for clarification, and the Examiner suggested that the erroneous paragraph numbers merely had transposed digits. However, as will be explained in greater detail below, the assertions regarding the contents of the cited references still are clearly erroneous and, thus, prima facie cases of obviousness and anticipation certainly have not been made in the Final Office Action.

A. Claims 1-5 and 7-9 Each Are Not "Obvious" Over the Alleged Combination of Wheeler and Clubb.

Claims 1-5 and 7-9 stand rejected under 35 U.S.C. § 103(a) as allegedly being "obvious" over Wheeler et al. (U.S. Publication No. 2003/0129248) in view of Clubb et al. (U.S. Publication No. 2001/0034791). This Section 103 rejection is erroneous and should be reversed for at least the following reasons.

From the outset, Applicant notes that none of the cited documents is even directed to a method of identifying a predetermined number of computers within a computer network that satisfies one or more specified conditions. Applicant further notes that none

of the cited references describes sending any sort of message having a token value indicative of the number of devices to be identified by the message.

Indeed, Wheeler seems to be completely irrelevant to the invention defined by the claims, as none of the paragraphs cited in Wheeler has any clear teaching related to the claimed invention -- regardless of the way in which one reorders the digits of the cited paragraph numbers. Clubb merely is concerned with sending messages over a network. Thus, it is clear that the cited references, alone or in combination, fail to teach or suggest a number of the limitations specifically recited in independent claim 1 and its dependents.

Of course, Applicants do not claim to have invented a method of merely sending a message between devices over a computer network. Yet, it is not clear if the Examiner has this bare feature in mind, as there is no understandable explanation as to why the documents have been cited. Even assuming, *arguendo*, that this is what the Examiner is asserting in the Final Office Action, it is clear from a basic analysis that the simple act of sending a message by specifying a device's address does not anticipate or make obvious the present claims. In particular, even if one tried to imagine a case in which only a single computer is to be identified, the presently claimed invention still requires sending a token value and one or more specified conditions within a request message. When a conventional message is sent, the only significant piece of data is the destination address. Although one possibly could (improperly) argue that this might represent a specified condition, one clearly could not even argue that it was a token value -- and certainly not at the same time as being a specified condition.

When a message is sent normally through a computer network, each device that receives a message checks to see if it is the recipient device and, if it is, then the message is passed up to a higher layer of message processing within the device. There is no step of decrementing a token value, and there is no subsequent determination to see if the decremented token value indicates that a further computer device (or devices) is (or are) to be located, or of forwarding one or more daughter messages on to a subsequent computer or computers, etc.

Since, in Applicant's claimed method, it normally will be the case that more than one device needs to be identified, this further checking step is essential and is simply not done in conventional message sending systems. Perhaps more fundamentally, there is no way in which a destination device can be said to be identified by the process of merely receiving a message. By definition, the sending device already knows its identity, inasmuch as it knows its address and, therefore, there is no sense in which the device is being identified as required by the present invention. Simply stated, there is no corresponding step of identifying itself to the request originating computer/device.

Rather than finding and applying one or more references that actually relate to the claimed invention, the Final Office Action merely quotes, or closely paraphrases, Applicant's claim language and then inserts parenthetical references to completely irrelevant or, in some cases, even non-existent, paragraphs of the cited references.

For example, the Final Office Action begins by quoting the preamble and the first two paragraphs of claim 1, followed by parenthetical references to Wheeler at paragraph

4, lines 2-6, and paragraph 222, lines 2-7. For convenience, the entirety of these references to portions of Wheeler are quoted below:

[0004] Over recent years, digital signatures also have become an important part of e-commerce. The origination of a digital signature generally comprises:

- (1) The calculation of a message digest – such as a hash value; and
- (2) The subsequent encryption of the message digest. The message digest is encrypted by an electronic device generally using a private key of public-private key pair used in asymmetric cryptography. . . . [Lines 1-8.]

. . .

[0222] The personal item 2650 is associated, among other accounts, with a medical practice management account maintained by an account authority represented by a medical practice management service 2612. The computer 2660 has installed thereon suitable database management and access software to enable it to interact, for example, over an internal or external network 2608 (in this case, it is an internal network) with information contained within an account database maintained by server 2612. [Lines 1-9.]

As is apparent, the cited passages in Wheeler essentially are irrelevant to the quoted claim language of claim 1. Applicant's claim is not dealing with digital signatures, database management, or the like.

The Final Office Action goes on to quote additional language from claim 1 and cites to non-existent paragraph numbers 393 and 394 in Wheeler. By telephone, the Examiner indicated that such references were made in error and instead should have referred to paragraph numbers 339 and 349, respectively. However, paragraph 339 deals with a central key authority 7190, etc., and paragraph 349 concerns the manufacturing history of a device so as to generate a digital signature, etc. Once again, neither the erroneously cited non-existent paragraphs, nor the "corrected" paragraph numbers, have anything to do with the quoted passages from Applicant's claim 1.

The Examiner then introduces further discussion with the statement: "However Clubb et al teach but fail to teach forwarding of one or more daughter messages. . . ." The grammar makes it difficult to understand the intended meaning of this transitional statement -- although it seems to be consistent with a possible intention to have earlier cited to Clubb rather than to Wheeler, even though the above-cited paragraph numbers found in Clubb also in any event are irrelevant to the Applicant's claimed invention. Furthermore, those paragraphs of Clubb that are cited (namely, paragraphs 9, 22, 23, 25, 26, 119, 124, and 165) also are irrelevant. For example, none of these paragraphs even so much as mentions the use of a token value indicative of a number of computer devices to be located by the message, etc.

The Final Office Action alleges that it would have been "obvious" to modify Wheeler so as to include features of Clubb "in order to provide formatted for the selected client device, thereby improve more security for customer." Once again, the grammar is such that it is difficult to understand the intended meaning. Such a statement is no substitute for some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir 2006). However, Applicant notes that these two references include disparate teachings classified in entirely different areas of the classified patent art and deal with entirely different problems and solutions, as compared to each other -- let alone when compared to the completely different problem and solution described and claimed here by Applicant.

The Examiner's continued discussion of specific dependent claims with respect to Wheeler and/or Clubb has similar deficiencies throughout.

In view of the above, it is clear that the Final Office Action has failed to demonstrate where in the cited prior art a number of Applicant's specifically claimed features are to be found, and likewise has failed to adequately demonstrate how or why the cited prior art references would have been combined by one of ordinary skill in the art at the time of the invention. Thus, Applicant respectfully requests that this Section 103 rejection be reversed.

B. Claims 10-11 Each Are Not Anticipated By Clubb.

Claims 10-11 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Clubb. This Section 102 rejection is erroneous and should be reversed for at least the following reasons.

Some of the fundamental deficiencies of Clubb have already been noted above. For example, Clubb does not teach the use of a token value indicative of the number of other computers within the network to be identified by a message, etc. Paragraphs 502, 564, 612, and 620 of Clubb cited in the Final Office Action as allegedly containing this and other teachings does not, in fact, offer any support for the allegations being made. Instead, these paragraphs deal with various coding/decoding encryption/decryption techniques, the mere use of acknowledgment control messages, process applications specific messages (e.g., dealing with a news service providing client devices with news stories), etc. None of these paragraphs in any way teaches or suggests employing a token value indicative of the number of other computers within the network to be identified by the message, etc.

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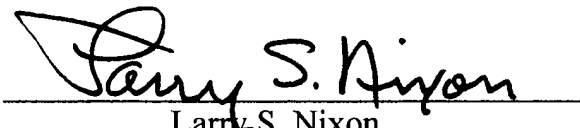
Accordingly, it is clear that Clubb fails to teach each and every feature of each of claims 10 and 11. As such, Clubb fails to anticipate claims 10 and 11, as a matter of law. Thus, Applicant respectfully requests that this Section 102 rejection be reversed.

CONCLUSION

In conclusion it is believed that the rejections of claims 1-5 and 7-11 are erroneous and should be reversed.

Respectfully submitted,

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(VIII) CLAIMS APPENDIX

1. A method of identifying a predetermined number of computers within a computer network which satisfy one or more specified conditions, the method comprising:

communicating a request from an originating computer to one or more of the computers in the network a request message which includes said one or more specified conditions and a token value which is indicative of a number of computer devices to be located by the message;

receiving said request message at subsequent computers and at each subsequent computer which receives a request message processing the message, performing the following:

determining if it is able to satisfy the one or more conditions specified in the request message and if so, decrementing the token value within the received request message and identifying itself to the request originating computer, and then

determining if the, possibly decremented, token value in the received request message indicates that at least one further computer device is required to be located and if so, forwarding one or more daughter messages on to a subsequent computer or computers within the computer network unless a restriction criterion has been met,

wherein each daughter message includes said one or more specified conditions and a token value such that the token value if only one daughter message is forwarded, or the sum of the token values of the daughter messages if more than one daughter message is

forwarded, equals the, possibly decremented, token value of the received request message.

2. A method as claimed in claim 1 wherein each message includes a number of further hops permissible as a restriction criterion and each time the message is newly received by a device it decrements the number of further hops permissible until it reaches zero whereupon the restriction criterion is deemed to have been met.

3. A method as claimed in claim 1, wherein each computer maintains a register of neighboring devices for the purpose of communicating request messages thereto together with a probability associated with each registered neighboring device and wherein these probabilities are used to determine to which neighboring device or devices a request message or messages is or are to be sent.

4. A method as claimed in claim 3 wherein a computer from time to time requests certain of its neighbors to re-register with other computers in dependence upon the probabilities associated with its registered neighboring computers.

5. A method of storing a data file in a computer network, the method comprising:
identifying a predetermined number of computers within a computer network
using the method according to claim 1

generating a first plurality, corresponding to the identified predetermined number of computers, of erasure coded fragments from the data file such that any subset of the fragments which contains at least a smaller predetermined number of the first plurality of fragments can be used to recreate the data file; and

transmitting each of the erasure coded fragments to a respective one of the identified computers for storage thereon;

wherein at least one of the one or more specified conditions is that the computer has sufficient storage space available for storing one of said fragments.

6. Cancelled.

7. A method as claimed in claim 5 wherein each fragment is encoded before transmission to a respective identified computer.

8. A method as claimed in claim 5 wherein each fragment is transmitted together with the public key of a public/private key combination belonging to a user attempting to store the data file.

9. A method as claimed in claim 5 wherein the data file is first transmitted from a remote client device to a gateway computer which is on the other side of a firewall between the remote client device and the gateway server, the computer network within

which the computers are to be identified also being located on the other side of the firewall to the remote client device.

10. A computer network comprising a plurality of computers having data connections such that each computer within the network can communicate with any other computer within the network provided both computers are running and correctly connected into the network, each computer within the network comprising:

a request generator for generating request messages each of which includes a token value indicative of the number of other computers within the network to be identified by the message and one or more specified conditions which each identified computer is to satisfy; and

a request processor for processing received request messages by:

determining if it is able to satisfy the one or more conditions specified in the request message and if so, decrementing the token value within the message and identifying itself to the originator of the corresponding received request message, and then,

determining if the, possibly decremented, token value in the request message indicates that at least one further computer is required to be located by the message and if so, forwarding the one or more daughter messages on to a subsequent computer or computers within the computer network, unless a restriction criterion has been met,

wherein each daughter message includes said one or more specified conditions and a token value such that the token value if only one daughter message is forwarded, or the

sum of the token values of the daughter messages if more than one daughter message is forwarded, equals the, possibly decremented, token value of the received request message.

11. A computer for forming part of a computer network comprising a plurality of computers having data connections such that each computer within the network can communicate with any other computer within the network provided both computers are running and correctly connected into the network, the computer comprising:

a request generator for generating request messages each of which includes a token value indicative of the number of other computers within the network to be identified by the message and one or more specified conditions which each identified computer is to satisfy; and

a request processor for processing received request messages by:

determining if it is able to satisfy the one or more conditions specified in the received request message and if so, decrementing the token value within the message and identifying itself to the originator of the received request message, and then,

determining if the, possibly decremented, token value in the received request message indicates that at least one further computer is required to be located by the message and if so, forwarding one or more daughter messages on to a subsequent computer or computers within the computer network, unless a restriction criterion has been

wherein each daughter message includes said one or more specified conditions and a token value such that the token value if only one daughter message is forwarded, or the sum of the token values of the daughter messages if more than one daughter message is forwarded, equals the, possibly decremented, token value of the received request message.

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(IX) EVIDENCE APPENDIX

None.

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(X) RELATED PROCEEDINGS APPENDIX

None.